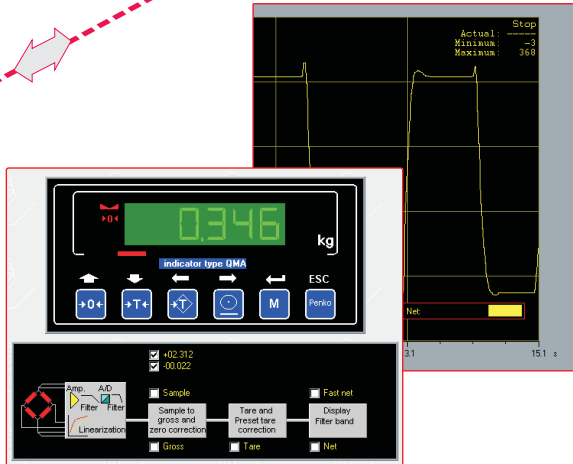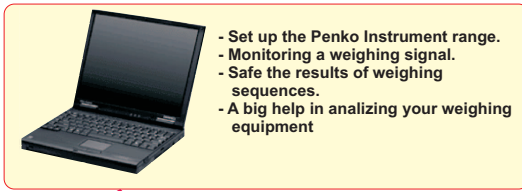# Product info

With Assi software from PENKO and the use of a COM port of the QMA, you are able to follow the weighing signal life.

Store a weighing sequence and analyse the behaviour of the weigher and your hardware. There is a memory scope function available. You are able to store the measuring results, also as "CSV" file.

ASSI
Freeware

- Set up the Penko Instrument range.
- Monitoring a weighing signal.
- Safe the results of weighing sequences.
- A big help in analizing your weighing equipment

Get your copy at:
WWW. PENKO.COM

Specifications:

Power supply	230 Vac - 50/60 Hz (14W), +/- 10%, 24VDC or 115 Vac optional.
Wiring	full Wheatstone bridge with sense connections (6 wire system).
Sense system	Active sense system, suitable for safety barriers.
Display	6 digits 0,56" - 14,2 mm. Ultra Bright. + 30 points LED-bar.
Sample rate	10-1000 conv./s
Internal resolution	1.000.000 parts.
Display resolution	+999.999 to -99.999 div.
Display speed	1-10 readings per second.
Excitation voltage	10 V DC, suitable for 1-4 load cells with a bridge resistance of 350 Ohm.
Input range	2,2 mV/V +0-22mV. (Verification unit 1 µV/part).
Sensitivity	22 nV/ADC division.
Dead load	75% of FS.
Linearity	< 0,0015 % FS.
Temperature effect	on zero <= 12 ppm/°C, on span <=10 ppm/°C.
Temperature range	-10 - + 50°C.
Analog filter	12 dB./octave e.g.40dB/decade 2,5 Hz.
Digital filter	36 dB/octave e.g. 120dB/decade 10Hz
Digital outputs	Opto Isolated RS 232, up to 115K2 Baud.& -RS422 - 4wire up to 115K2 Baud.
Protocol	on each digital port PV, or PC ,or PR, or none.
Inputs	8 optical isolated, 2 commons. (2 x 4) 12-30 V. DC.
Outputs (level cont.)	4 solid state outputs,2commons (2x2) 10-35 Vdc or ac max 0,5A.
Consumption	20 Watt with 4 loadcells- 350 Ohm.
Dimensions	150 x 78 x 210 (depth without connectors).
Weight	appr. 2100 g

Option:

Profibus	DP-slave, hardware address, Communication-auto baud rate detection.
Input range	1,5 mV/V or 2,5 mV/V or 3 mV/V
Analog Out	0-10V or 0/4-20/24mA .

Weigh indicator QMA

PENKO
an ETC Company

QMA

Main features:

- **Certificated by NMi: TC5930, 10.000 divisions 1d => 1µV** according to O.I.M.L. R76 and EN 45501..

- **1000 samples per second**.

- **PROFIBUS** (option).

- **For Ex-i. Certificate by NMi: TC6025, 6.000 divisions 1d = > 1 µV** (In combination with described barriers)

- Specially made for industrial use.

- Digital calibration.

- For 1 - 4 load cells 350 Ohm (min:87,5 Ohm /Ex: 100 Ohm).

- 4 Solid state level contacts with hysteresis.

- 8 Inputs. (for remote control).

- RS232 and RS422 - interface.

- Analog out: 0 -10V or 0/4-20/24 (Option).

- Panel mounting.

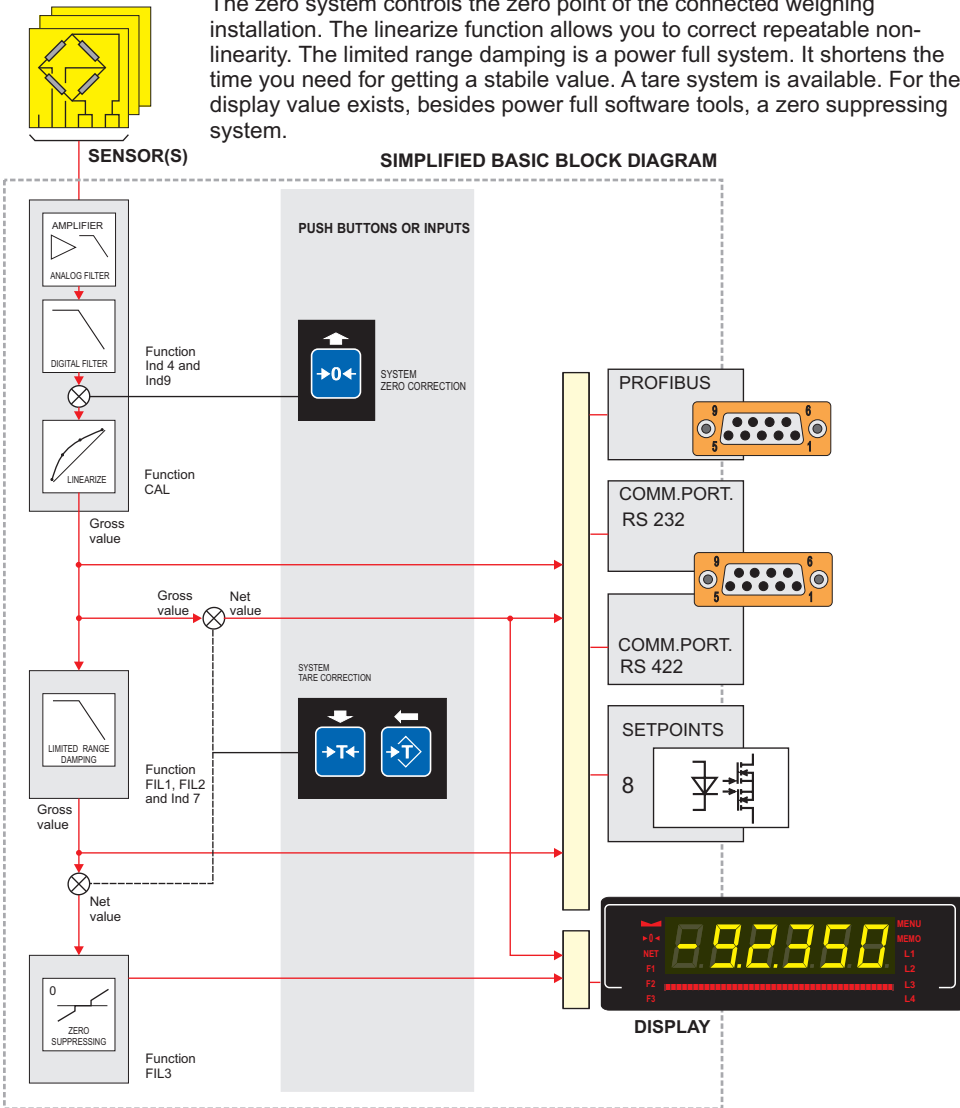- Extruded and machined ALU- housing.

This block diagram explains how the digital indicator works.
After amplification the signal goes through an overall digital filter. This filter influences all the following values of the instrument.
The zero system controls the zero point of the connected weighing installation. The linearize function allows you to correct repeatable non-linearity. The limited range damping is a power full system. It shortens the time you need for getting a stabile value. A tare system is available. For the display value exists, besides power full software tools, a zero suppressing system.

SENSOR(S)

SIMPLIFIED BASIC BLOCK DIAGRAM

PUSH BUTTONS OR INPUTS

AMPLIFIER
ANALOG FILTER

DIGITAL FILTER — Function Ind 4 and Ind9

SYSTEM ZERO CORRECTION

LINEARIZE — Function CAL

PROFIBUS

COMM.PORT. RS 232

COMM.PORT. RS 422

Gross value

Gross value / Net value

SYSTEM TARE CORRECTION

LIMITED RANGE DAMPING — Function FIL1, FIL2 and Ind 7

SETPOINTS

8

Gross value

Net value

ZERO SUPPRESSING — Function FIL3

DISPLAY

-92.350

MENU
MEMO
NET
F1
F2
F3
L1 L2 L3 L4

The block diagram shows the real power of the instrument. You are free to connect each value, gross, net, gross extra filtered or net extra filtered, to one of the output devices. The configuration is independent for each output. Outputs are: communication port RS232 and RS422 as well as set points. The tare system and the zero suppressing tool are connected to the display

QMA

Front key functions:
Create a new zero level - Tare on or off - Enter preset tare values -Print actual, total value or day value - Change code - Set Levels for the outputs - Clock (date & time for printing).

Set-Up menu functions:
Maximum display value - No motion band - Zero tracking band - Digital overall filter - Display step size - Decimal point position - Display update speed - Industrial or certified action - Set sample rate - Stable time - Display filter band - Display filter factor - Zero Suppressing.

Pre- Calibration parameters:
Polarity of input range - Recall the Pre- calibration settings - Toggle between tracking or ADC value or tracking/10 - Check and delete calibration points - Fix calibration - View traceable access code.

Calibration facilities:
Basic 2 point calibration or extended multipoint calibration - Auto range step configuration by the number of display divisions - Maximum auto range step size - Auto range reset option - Fine trimming calibration points.

Set up communication ports:
Baud rate setting for RS232 port - Baudrate setting for optional RS422 port - Communication protocol for comm. port 1 - Channel no. port 1- Channel no. port 2 - Communication protocol for comm. port 2 - Profibus DP-slave setup (optional) - Hardware addressable -Clock setting(date&time).

Ticket layout settings:
Lay out selection - Form feed length - Left margin - End of line sequence selection - Headers and footers set up.

Feature operations: Auto power down - Auto key "esc" time.

Recall: Factory and user defined settings.

Profibus

Penko developed a Profibus COM port for safe use in industry.

The type is profibus **DP-slave** and is provided with a hardware address.

The most interesting parts of the GSD file follows below.

Module = "weight" 0x28, 0x1E
gross   32 bits inputs
net   32 bits inputs
tare   32 bits inputs
status 16 bits inputs
cmd   8 bits inputs

level1 32 bits outputs
level2 32 bits outputs
cmd   8 bits outputs

cmd bit definition:
1 = zero reset command
2 = zero set command
3 = tare off
4 = tare on
5 = free
6 = free
7 = free
8 = free

status bit definination:
1= hardware overload detected
2 = overload detected

3 = stable signal
4 = in stable range
5 = zero corrected
6 = center of zero
7 = in zero range
8 = zero tracking possible
9 = tare active
10 = preset tare active
11 = new sample available
12 = calibration invalid
13 = calibration enabled
14 = user certified operation
15 = level 1 active
16 = level 2 active

PROFIBUS